Health Priority: Intentional and Unintentional Injuries and Violence
Objective 3: Fall Related Injuries and Death

Long-term (2010) Subcommittee Outcome Objective: By 2010, reduce injury and deaths from falls among all populations in Wisconsin.

Inputs	Outputs		Outcomes		
	Activities	**Participation/ Reach**	**Short-term 2002-2004**	**Medium-term 2005-2007**	**Long-term 2008-2010**
Policymakers (state, county, and local) Staff from state agencies: • Department of Health and Family Services, Division of Public Health, Division of Supportive Living, Bureau of Quality Assurance • Department of Agriculture, Trade, and Consumer Protection • Department of Commerce-Building Inspection (state and local) Consumer Product Safety Commission-regional and national EMS/fire/law enforcement; hospitals, Falls Clinics, primary care clinics Organizations focusing on aging adults: area agencies on aging, county and tribal aging units, county human/social services, county aging and disability resource centers, Care Management Organization, Pace and Partnership Programs, independent living centers,	Education and Outreach: Heighten public awareness and knowledge about falls and falls prevention Develop, promote and support (multifaceted) prevention and education programs Train people to provide the services developed related to fall prevention Establish and foster state and community collaborations Risk Management: Develop assessment and screening tools, interventions, protocols, and health professional tools, e.g., emergency medical tool kit Direct Service: Identify and promote best practice community models, e.g., falls clinics, in home assessments Data Collection and Analysis: Develop improved data reporting and sources	Policymakers (state, county, and local) Interfaith volunteers programs and parish nurses Providers (Emergency Medical Services/fire/law enforcement, and hospitals) Providers working with elderly and persons with disabilities Falls clinics Primary care clinics Tribes Families with young and school aged children; providers that work with children Targets identified based on local,	Heightened awareness and increased knowledge on the impact of falls and falls prevention Statewide media campaign developed and implemented Training for professionals and volunteers has occurred in 1/3 (25) of Wisconsin counties Increased access and implementation of in-home assessments and screenings Improved communication and collaboration between professional associations with centers for higher learning Training video for clinical and in home assessment produced and available Statewide advisory group for falls injury prevention initiative established and operational	Requests for falls prevention programs and activities are being made by groups, both public and private. Tribe, county, and locally-specific falls and falls prevention informational materials are available and in use in one half (36) of Wisconsin counties, regions, and tribes Increased availability and delivery of in home assessments and screenings in 1/3 (25) of Wisconsin counties due to increase in trained professionals and volunteers. Model curricula developed for health care professionals and allied healthcare providers and incorporated into trainings/education models of institutes for higher learning.	Off CDC's "Top 10 list" of states with deaths from falls Regionalization of interdisciplinary falls clinics exist Most counties have a comprehensive falls prevention program in place Model curricula of falls risk and prevention is initiated in five different centers for higher learning (physical therapy, occupational therapy, registered nurses, and medical personnel, nutrition, vision) Number of Falls Clinics will increase to at least three across the state Balance and strengthening programs will be available to older

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	Activities	**Participation/ Reach**	**Short-term 2002-2004**	**Medium-term 2005-2007**	**Long-term 2008-2010**
Senior centers, meal sites Parish Nurse and interfaith volunteer programs Institute on Aging Organizations focusing on young children: Bureau of Family and Community Health, Division of Public Health; Child Care Resource and Referral agencies and networks (17 statewide); networks of in-home daycare providers; licensing and regulation for day care carried out by state, district, and regional offices; child care information centers; Wisconsin Child Care Improvement Project; Partners for Healthy Child Care Grant; early childhood excellence centers; Maternal Child Health funded local health departments carrying out Theme 4; Head Start Programs; family resource centers; schools; Wisconsin Early Childhood Association SAFE KIDS coalitions and chapter Institutions of higher education professional programs, e.g., occupational therapy, physical therapy, medicine, and nursing.	Policy and Regulation: Develop policies for data collection, analysis and reporting, training, curriculum and funding. Evaluation: Evaluate effectiveness of programs	regional and state data Ethnic and cultural communities Citizens/public Insurance companies, HMOs EMS/fire/law enforcement, hospitals, and citizens Building inspection (state and local)	Buy-in of partners and formation of local coalitions—improved access to information and training Resources are available to carry out programs Assessment and intervention materials and tools are available for use at the community level Best practice models are shared and available through state/local coalitions Data and technical support provided to communities and decision-makers Improved quality of falls related data	A model playground safety curriculum is developed and is introduced into day cares, schools, etc. Scope of falls prevention activities (to include such things as community in -home exercise programs, in-home assessments, follow ups, etc.) increased by 1/3 (25) Wisconsin counties/communities EMS and trauma registry in Wisconsin by 2004 Improved ability to evaluate falls prevention efforts Improved access to falls data for partners (query-based data system) Expand data surveillance to look at other noncaptured causes, location, etc.	adults in at least each region of the state. Developed query-based data system available to provide systematic and timely Department of Health and Family Services scorecard data and information Reduction of injury and mortality from falls

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	Activities	**Participation/ Reach**	**Short-term 2002-2004**	**Medium-term 2005-2007**	**Long-term 2008-2010**
Local public health nurses Medical College of Wisconsin - Injury Research Center Organizations serving racial and ethnic populations: United Refugee Service; CentroHispano; CentroGuapalupe; Great Lakes Inter-Tribal Council; and Southeast Asian Mutual Assistance Associations (e.g., Hmong) Local communities and neighborhood associations Insurance companies Health maintenance organizations Regional Trauma Council participants Businesses (e.g., Anderson Windows' "*Lookout for Kids Program*;" and Home Depot's "*SafeHome*."					

Goal: Reduce injury and deaths from falls among all populations in Wisconsin.

Base Year: In 1998 age-adjusted falls deaths accounted for 3.69/100,000; 1998 there were 20,707 hospitalizations related to falls in Wisconsin.

Future Goals: By 2005, there will be an increase in comprehensive falls prevention programs at the local/community level. Goal for 2010 is to look at comparative mortality and morbidity data from 1998 and 2008 (or the most recent year available) and show a decrease in overall falls death rate to at least 6.96/100,000 and a decrease in the age adjusted falls death rate to less than 2.97/100,000. Hospitalizations from falls will decrease from approximately 25% of all hospitalizations to 22.5%.

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Long-term (2010) Subcommittee Outcome Objective:
By 2010 the age adjusted fall death rate will decrease from 3.69/100,000 population in 1998 to 2.97/100,000 population and hospitalizations from falls will decrease from approximately 25% of all hospitalizations to 22.5%.

Future Interim Goal:
By 2005, there will be an increase in comprehensive falls prevention programs at the local/community level. Goal for 2010 is to look at comparative mortality and morbidity data from 1998 and 2008 (or the most recent year available) and show a decrease in overall falls death rates and hospitalizations.

Wisconsin Baseline	Wisconsin Sources and Year
In 1998, the Wisconsin's age adjusted falls death rate was 3.69/100,000 population (6.96/100,000 population overall).	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information, 1998
39% of all traumatic brain injury hospitalizations were due to falls.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information, 1998
Falls were the underlying cause of 38% of all spinal cord injuries.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information, 1998
An average of 11 work-related fatalities per year (1992-2001) were due to falls from elevations. This is 10% of all work-related fatalities. An average of 2 fatalities per year were caused by slips and trips.	Wisconsin Department of Health and Family Services, Division of Public Health, Bureau of Occupational Health, FACE Program database.

Federal/National Baseline	Federal/National Sources and Year
In 1997, 75.5/100,000 populations hospitalizations for nonfatal head injuries related to falls	*Healthy People 2010*, November 2000, US DHHS
In 1997, 4.8/100,000 population hospitalizations for nonfatal spinal cord injuries related to falls	*Healthy People 2010*, November 2000, US DHHS
4.5 deaths/100,000 population (age-adjusted) were caused by falls in 1998	*Healthy People 2010*, November 2000, US DHHS
1,120.9 hip fractures in women 65+ years of age /100,000 population and 563.1 hip fractures in men 65+ years of age/100,000 population	*Healthy People 2010*, November 2000, US DHHS
Falls to the surface of playgrounds was a contributing factor in 79% of injuries on playgrounds. On home equipment, 81% were associated with falls.	U.S. Consumer Product Safety Commission's (CPSC) National Electronic Surveillance System (NEISS), 1998-2000. (Reported in Tinsworth, D. and McDonald, J. (April 2001). Special Study: Injuries and Deaths Associated with Children's Playground Equipment. Washington, D.C.: U.S. Consumer Product Safety Commission.)

Federal/National Baseline	Federal/National Sources and Year
Falls from elevations accounted for 10% of all work-related fatalities from 1980 through 1994, for an average annual fatality rate of .49 per 100,000 workers	Worker Deaths by Falls, November 2000, US DHSS

Related USDHHS Healthy People 2010 Objectives			
Chapter	**Goal**	**Objective Number**	**Objective Statement**
15--Injury Prevention	Reduce injuries, disabilities, and deaths due to unintentional injuries and violence.	15-1	Reduce hospitalizations for nonfatal head injuries.
		15-2	Reduce hospitalizations for nonfatal spinal cord injuries.
		15-27	Reduce deaths from falls.
		15-28	Reduce hip fractures among older adults.

Definitions	
Term	**Definition**
Web based query system	Internet site that allows user to make injury data requests or inquiries at a state and/or county level.
Falls Clinic	A specialized interdisciplinary clinic composed of nursing, physician, and social work, focusing on falls prevention and treatment of mobility disorders.

Rationale:

Within the Department of Health and Family Services, the Bureaus of Emergency Medical Services and Injury Prevention (BEMS & IP); Aging, Long Term Care, and Resources (BALTCR); Family and Community Health (BFCH); Occupational Health (BOH); local public health departments; UW-Madison and Milwaukee; and other interested public and private partners have been motivated to initiate a statewide effort to address the disproportionate number of falls and falls related injuries and deaths in Wisconsin. (There is no statutory language mandating this responsibility.)

Falls are one of the leading causes of severe, disabling, and costly injuries in Wisconsin. Falls accounted for one quarter of all Wisconsin hospitalizations in 1998 and were the second most common reason for hospitalization in all age groups except 75 + where falls were the leading cause of hospitalizations. In 1998, hospital stays due to falls lasted an average of 5.3 days and charges averaged $10,311 per patient. Altogether, fall-related hospitalizations cost more than $213 million in 1998, or about 20% of all hospitalization charges. Falls caused 14% of the hospitalizations of people under 65 years of age, and 39% of older people's hospitalizations. Under the age of 14 years of age, 16% of hospitalizations were due to falls. Among those aged 0-4 years, falls account for 15% of hospitalizations. When hospitalizations in the aging population involved a hip fracture, they lasted slightly longer (6 days) and charges were somewhat higher ($13,444) on average.

Most fall injuries to children occur on playgrounds in falls off swings, monkey bars, climbers, or slides. (Consumer Product Safety Commission. National Electronic Injury Surveillance System 1990-1994. Washington DC: CPSC.) Falls off of playground equipment to the ground account for more than 60% of all playground-related injuries. (Consumer Product Safety Commission. National Electronic Injury Surveillance System 1990-1994. Washington DC: CPSC.) The U. S. Consumer Product Safety Commission also reported a significant increase in injuries from falls with use of the popular lightweight scooters involving children.

Wisconsin's rate of accidental death from falls has increased steadily over the past 10 years. Wisconsin ranks very high nationally in numbers of deaths per 100,000. Men suffer fatal falls more often than women. Also, older people die from falls more often than do younger people (although in Wisconsin falls are also a leading cause of hospitalization among youths). In Wisconsin, 90% of those who die from falls are age 60 and older.

Studies of traumatic brain injuries and spinal cord injuries in Wisconsin identify falls as the leading cause of these unintentional injuries. Falls were the underlying cause of 38% of all spinal cord injuries, with males sustaining about 3 times as many injuries as females. The proportion of spinal cord injuries that are due to falls increases with age. Among those age 65 and over, more than two-thirds of all spinal cord injuries are caused by falls.

In 1998, 39% of all traumatic brain injury hospitalizations were due to falls (surpassed only by motor vehicle crashes, which accounted for 45%). Fall related traumatic brain injury hospitalizations cost a total of $19,017,323 in 1998, or 30% of the cost of all traumatic brain injury hospitalizations. Compared to females, males have a greater number of traumatic brain injury hospitalizations due to falls. However, a larger share of women's traumatic brain injuries are caused by falls (almost half, compared to just over one-third of men's traumatic brain injuries). As with spinal cord injuries, the proportion of traumatic brain injuries attributed to falls increases with age.

For older adults, about 40% of nursing home admissions involve a fall or a tendency to fall due to physical instability. Even when a fall does not cause a specific injury, older adults who have fallen often become afraid of falling again. Fear of falling, declining quality of life, and ability to participate in community activities as well as decreased physical activity can result. Along with this consequent decrease in physical activity, there is a general loss of muscle tone, strength, flexibility, and balance. In this way even a moderately serious fall can set in motion a process of general physical decline leading to institutionalization.

An average of 11 Wisconsin workers die each year from falls from elevation (6 feet or over). Falls from ladders, scaffolds, buildings, trees and silos were the most frequent causes. An average of two workers a year die as a result of slips and trips and falls to the same level. Over $44,000,000 is paid each year by Wisconsin Workers' Compensation insurance carriers for claims due to non-fatal work-related falls.

Outcomes:

Short-term Outcome Objectives (2002-2004)

- The partners will provide education statewide to heighten awareness and increase knowledge on the impact of falls and falls prevention through a statewide media campaign developed by key partners and disseminated widely.

- Training by the partners will be provided for public health and health care professionals and volunteers in one third (25) of WI counties through improved communication and collaboration between professional associations with centers for higher learning and development of model curricula for health care professionals and allied healthcare providers to be incorporated into trainings/education models at institutes of higher learning, training videos of clinical and in-home assessments at the local community level.
- Local partners will promote and develop community coalitions building partnerships to improve access to assessment, screening, and intervention materials and training opportunities, provide resources to carry out programs, and identify best practice models.
- A statewide falls prevention advisory group will be established to assist with the overall coordination of education, training, data collection and analysis and achievement of statewide goals and objectives of the plan.
- The access and reporting of falls related data will improve through the education, training and coalition building efforts identified.

Inputs: *(What we invest – staff, volunteers, time money, technology, equipment, etc.)*

- DHFS, BEMS and IP, BALTCR, BFCH, BOH, local public health departments and aging offices, UW-Madison and UW -Milwaukee and other committed partners will develop and implement an educational campaign to raise awareness, educate, and influence the 3 P's—policymakers (local, county, state), direct care providers and general public on the impact of falls and need for falls prevention activities/programs. These same groups will develop and deliver training for professionals to educate them on impact of falls and falls prevention.
- BEMS & IP, BALTCR, BFCH, BOH, and other interested parties will work to support community collaborations and provide falls prevention information to them and their policy/decision makers.
- DHFS, BEMS & IP, BALTCR, BFCH, , BOH, UW Madison & Milwaukee, and other interested parties will work to improve falls-related reporting, availability and access to data for communities and decision/policy makers.

Outputs: *(What we do – workshops, meetings, product development, training. Who we reach-community residents, agencies, organizations, elected officials, policy leaders, etc).*

- The statewide initiative partners identified will develop and disseminate standardized presentation packages and educational materials on impact of falls, needs for fall prevention activities/programs, components and tools to be used in a comprehensive fall prevention program.
- The statewide falls prevention advisory workgroup will meet routinely to assist in coordination of falls prevention activities/programs and formation of local community and/or state coalitions.
- Technical support and promotion of data collection will be provided to communities and decision/policy makers.

Medium-term Outcome Objectives (2005-2007)

- Additional resources such as tribe, county, and locally--specific falls and falls prevention informational materials (such as in-home assessment and screening tools, curricula, and programs) are available and in use in one half (36) of Wisconsin counties, regions, and tribes.
- EMS and trauma registry data (inclusive of falls) is available by 2004.

- State falls advisory group (and/or injury coordinating group) provides input and assists in the development of a data-driven evaluation to evaluate effectiveness of programs and strategies.
- The injury web based query system is operational improving access to falls data by interested stakeholders.
- The Bureaus of EMS & IP and BALTCR will expand data surveillance to look at other noncaptured causes, location, etc.

Inputs: *(What we invest – staff, volunteers, time money, technology, equipment, etc.)*

- State Advisory and community falls prevention coalitions will identify and promote model comprehensive falls prevention programs, standardized materials, and model falls prevention curricula for health and allied health professionals schools of higher learning.
- The BEMS & IP in partnership with Bureau of Health Information will enhance the web based query system to provide increased falls-related injury/death data.

Outputs: *(What we do – workshops, meetings, product development, training. Who we reach-community residents, agencies, organizations, elected officials, policy leaders, etc).*

- Approximately 25, or one third of, counties/communities will have received standardized and/or model materials and developed programs supporting the additional three falls clinics and comprehensive falls prevention program models--which include in-home assessments, follow up screenings, education of consumers, in home exercise, home safety checks with improvements--in the state.
- Falls prevention curricula will begin to be introduced into schools of medicine, nursing, physical and occupational therapy, etc. in Wisconsin by key partners.
- Evaluation of falls prevention efforts will be enhanced due to improved access to falls data for partners and interested parties through the availability of falls data in the web-based query system, trauma registry, and EMS data.

Long-term Outcome Objectives (2008-2010)

- Wisconsin will "fall off" CDC's "Top 10 list" of states with the most deaths related to falls.
- Interdisciplinary falls clinics will exist across the state with at least one per DHFS health region.
- Most counties in Wisconsin will have a comprehensive falls prevention program in place. (Comprehensive falls prevention programs will include the following: in home assessments, follow up screenings, education of consumers, exercise programs, home safety checks with modifications.)
- Model curricula of falls risk and prevention is initiated in five different centers/specialty education facilities for higher learning (Physical Therapy, Occupational Therapy, Nursing, Medical, Nutrition, Vision) in Wisconsin.
- Balance and strengthening programs will be available to older adults in at least each DHFS region of the state.
- Web based query system for falls data will be available to provide systematic and timely data and information.
- Wisconsin will see a reduction of injury and mortality from falls.

Inputs: *(What we invest – staff, volunteers, time money, technology, equipment, etc.)*

- Data is collected, analyzed, and accessible at the local, regional, and state levels as provided by the BEMS & IP, Bureau of Health Information and other key partners.

Outputs: *(What we do – workshops, meetings, product development, training. Who we reach-community residents, agencies, organizations, elected officials, policy leaders, etc.).*

- Data indicates effectiveness of statewide falls prevention activities/programs in decreasing fall-related injuries and deaths by concentrating prevention efforts.

Evaluation and Measurement

Success in achieving the 2010 outcome objectives will be determined by monitoring the progress of county, regional, tribal programs and coalitions with the help of the advisory structure established and monitoring the performance based contracting process of the local public health departments and falls prevention funding of local aging offices. Evaluation and measurement will also require evaluating local community capacity, including training, implementation of the in-home assessments and screenings and ultimately the number of injuries and deaths related to falls identified in the data sources. The development of such resources as clearinghouses for falls prevention educational programs and contact lists of trained professionals, allied health professionals and institutes of higher learning who have incorporated model falls prevention curricula will also provide insight into the success of falls prevention in Wisconsin.

Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010

Integrated Electronic Data and Information Systems: There is a need to address technical and resource issues unable to be addressed by the injury surveillance system such as timeliness, accessibility, flexibility, accuracy of the falls data.

Community health improvement processes and plans: Assessing need, developing priorities, and taking action by the community requires a comprehensive review. It will be important that community assessment and development efforts to reduce fall injuries and deaths are integrated into the larger community health improvement efforts required of local health departments, boards of health, and their partners as set forth in ch. 251, Wis. Stats.

Coordination of state and local public health system partnerships: For effective assessments, development of priorities and resources and implementation or taking the necessary action at a local, regional, or state levels, partnerships must be developed and coordinated to use our limited yet valuable resources wisely in order to prevent falls deaths and injuries.

Sufficient, competent workforce: For the promotion of comprehensive falls prevention and education in such locations as falls clinics or programs across the state, there must be competent and highly trained professionals with the knowledge and skill base to perform the assessments and screenings and intervene when necessary.

Equitable, adequate, and stable financing: Currently there is no statutory mandate to provide falls prevention activities, yet Wisconsin is in the top five states in the country with its residents dying from falls at an alarming rate. Funding and support is necessary for the development of the resources required to education, train, intervene and treat, and evaluate the effectiveness of the programs we have implemented to reduce fall deaths and injuries.

Access to primary and preventive health services: Along with better trained professionals and volunteers, people need to have access to preventive health services such as falls prevention in-home assessments, modifications, and screenings.

Adequate and appropriate nutrition: Prevention of falls is multifactoral. Not only is home modification important, but also such things as review of medications, use of alcohol and other nonprescription drugs, and a person's nutritional status.

Alcohol and other substance use and addiction: There is documentation that identifies alcohol and/or other substance use as contributing factors to falls.

Environmental and occupational health hazards: In-home assessments and environmental modifications are an important prevention strategy to reduce injuries and deaths from falls. They are not the end-all, but need to be part of a comprehensive falls prevention program. Fall prevention systems (e.g., guardrails and hole covers) and personal fall-arrest systems (full-body harness with lanyards and connection hardware) are effective in reducing injuries and fatalities from falls in occupational settings. Additionally, slip-resistant footwear and walking surfaces have proven to be effective in preventing slips.

Significant Linkages to Wisconsin's 12 Essential Public Health Services

Monitor health status to identify community health problems: Falls have been identified as a leading cause of hospitalizations and deaths among the citizens of Wisconsin.

Identify, investigate, control, and prevent health problems and environmental health hazards in the community: In-home assessment and environmental modifications is an important prevention strategy to reduce fall injuries and deaths.

Educate the public about current and emerging health issues: By heightening the awareness and knowledge about the impact of falls and falls prevention opportunities, improvement in the identification of fall hazards and prevention of falls in our communities is more likely to occur which will lead to reducing fall injuries and deaths.

Promote community partnerships to identify and solve health problems: For effective assessments, identification of priorities and resources needed to take the necessary action at a local, regional, or state level, partnerships must be developed and coordinated to use our limited yet valuable resources wisely in order to prevent falls deaths and injuries.

Create policies and plans that support individual and community health efforts: Buy-in of partners and formation of local coalitions will improve access to information, training opportunities, and fall prevention services, e.g., in-home assessments and screenings, balance and strengthening programs, falls clinics.

Link people to needed health services: For those at risk of falling or who a history of falling in the past, it is imperative they be linked with resources to assist them in reducing the likelihood of falling in the future.

Conduct research to seek new insights and innovative solutions to health problems: Multifaceted approaches to fall prevention have been scientifically shown to reduce the incidence of falls; therefore there is a need for the medical/community model of comprehensive falls prevention programs in Wisconsin. These programs will not be possible without the development of state and local support focusing on falls prevention program development, implementation and evaluation through use of the data.

Connection to the Three Overarching Goals of Healthiest Wisconsin 2010

Promote and Protect Health for All: Falls affect all people of Wisconsin

Eliminate health disparities: Falls affect both the young and the aging population of Wisconsin. They rank in the top five leading causes of injuries and deaths in the state.

Transform Wisconsin's public health system: Fall injuries and deaths continue to increase in Wisconsin. A new comprehensive approach to fall prevention is needed.

Key Interventions and/or Strategies Planned:

- Development of local and statewide falls prevention coalitions.
- Development and dissemination of a statewide media campaign.
- Implementation of an in-home assessment, screening and follow-up training in at least every region of the state.
- Development and dissemination of a "Physician Tool Kit for Falls Prevention."
- Standardized Home Safety Checklist with recommended modifications developed and implemented as part of a comprehensive falls prevention program.
- Model Curricula for Health and Allied Health Professionals developed and integrated into institutes of higher learning in Wisconsin; Model Playground Safety Curriculum is developed and introduced into day care settings and schools.
- Web based Query Data System developed and accessible to counties in Wisconsin

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